



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

*Handwritten signature*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/630,559	07/30/2003	Livio Ricciulli	2711-0012	8636

42624 7590 03/30/2007  
DAVIDSON BERQUIST JACKSON & GOWDEY LLP  
4300 WILSON BLVD., 7TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

NGUYEN, MINH CHAU

ART UNIT PAPER NUMBER

2145

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/630,559

Applicant(s)

RICCIULLI, LIVIO

Examiner

MINH-CHAU N. NGUYEN

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 33-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01/24/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This action is responsive to the amendment of the applicant filed on 01/24/07.

Claims 33-54 are presented for further examination.

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).
2. Misnumbered claims 1-22 have been renumbered 33-54.

### ***Information Disclosure Statement***

3. The information disclosure statement (IDS) submitted on 01/24/07 was filed after the mailing date of the Non-Final Rejection on 07/25/06. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the Examiner.

### ***Drawings***

4. The drawings were received on 01/24/07. The Examiner accepts these drawings.

### ***Priority***

5. The Note on Priority in Applicant's arguments/Remarks were received on 01/24/07. The Examiner reconsiders and accepts the priority date of present application is June 18, 1999.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 33-36,39-45,47-51,53-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al. (Shaffer) (US 6,236,642 B1).
7. Claim 33, Shaffer teaches a method for selecting a route in a network, the method comprising:

receiving data (i.e. voice, video or other data) (Col. 3, L. 8-11) associated with a request for content at a first intermediate server(i.e. node 1), the data transmitted from an end user (i.e. source node) to the first intermediate server (i.e. node 1) (see figure 2);

identifying a first cost (i.e. a cost for an established initial route in figure 1) of transmission along a default route (i.e. an initially assigned route which is stored in a memory of a network control unit. For example, route "source node –

node 1 – end node” in figure 1) (Col. 3, L. 30-40) from the first intermediate server (i.e. node 1) to a content server (end node), the default route determined using one or more existing routing mechanisms (see figure 2; and Col. 3, L. 10-50; and Col. 4, L. 22-31);

identifying a second cost (i.e. a cost to each subsequent route that may be contemplated as a possible alternate route) (Col. 3, L. 30-40) of transmission along an alternate route from the first intermediate server (i.e. node 1) to the content server(end node), the alternate route including a second intermediate server (i.e. node 2) not in the default route (i.e. route “source node – node 1 – node 2 – end node”) (see figure 2; and Col. 3, L. 10-50; and Col. 4, L. 22-42), wherein the second intermediate server is part of an overlay network (i.e. a network connection is shown in figure 2);

determining an optimal route (i.e. an optimal route is a route providing fast links and greatest bandwidth at the lowest cost) based at least in part on the first cost and the second cost, wherein the first cost and the second cost are determined using network communication performance metrics (i.e. the cost may be a functions of a number of links, link speeds and bandwidth) (Col. 3, L. 10-50; and Col. 4, L. 4-13, L. 22-55); and

transmitting data associated with the request for content along the optimal route (figure 3&4; and Col. 4,L. 22-42; and Col. 5, L. 6-39).

8. Claim 34, Shaffer teaches the network communication performance metrics are obtained periodically (i.e. "the system will wait a predetermined amount of time") (Col. 5, L. 27-34).
9. Claim 35, Shaffer teaches the cost of transmission is determined using one or more network communication performance metrics selected from the following group: delay, bandwidth, jitter, loss, security (Col. 4, L. 49-55).
10. Claim 36, Shaffer teaches the alternate route (i.e. route "source node – node 1 – node 2 – end node") comprises one or more overlay nodes (see figure 2).
11. Claim 39, Shaffer teaches the data is transmitted along the optimal route by changing a destination associated with the data (figure 3&4; and Col. 4,L. 22-42; L. 56-Col. 5, L. 39).
12. Claim 40, Shaffer teaches a response corresponding to the request for content is also transmitted along the optimal route (i.e. see figure 2, the communication links between source node and the end node which includes several the intermediate nodes are bidirectional communication links. Therefore, it inherits that if the request is transmitted along the optimal route, then the response must be transmitted along the optimal route, too) (Col. 3, L. 30-46; Col. 4,L. 22-42; L. 56-Col. 5, L. 39).

13. Claim 41, Shaffer teaches determining the optimal route comprises determining an optimal next hop (Col. 3, L. 30-44; and Col. 4, L. 22-Col. 5, L. 39).
14. Claim 48, Shaffer teaches the processor is further configured to transmit data associated with the request for content along the preferred route (figure 2 and Col. 3, L. 7-15, L. 30-59).
15. Claims 42-45 are corresponding apparatus claims of method claims 33-36. Therefore, they are rejected under the same rationale.
16. Claims 47,49-51 are corresponding apparatus claims of method claims 33-36. Therefore, they are rejected under the same rationale.
17. Claim 53 is corresponding claim of claim 33. Therefore, it is rejected under the same rationale.
18. Claim 54 is corresponding system claim of method claim 33. Therefore, it is rejected under the same rationale.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 37-38, 46, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer as applied to claims 33, 42, 47 above, and further in view of Matthews et al. (Matthews) (6,084,858).

20. Claim 37, Shaffer teaches the one or more overlay nodes defined in a network (see figure 2).

Shaffer fails to teach one or more overlay nodes define a virtual topology. However, Matthews, in the same field of endeavor having closely related objectivity, teaches one or more overlay nodes define a virtual topology (i.e. a meshed network topology) (figure 1; and Col. 1, L. 40-53).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Matthews's teachings of one or more overlay nodes define a virtual topology, in the teachings of Shaffer in apparatus and method for network resource preservation, for the purpose of improving network efficiency.

21. Claim 38, Shaffer and Matthews disclose the invention substantially as claimed.

Shaffer teaches the data is transmitted along the optimal route (Col. 3, L. 30-59;



Art Unit: 2145

and Col. 4, L. 45-55). Besides this, Mathews teaches the data is transmitted along the route using encapsulation (Col. 1, L. 31-33).

22. Claim 46 is corresponding apparatus claim of method claim 37. Therefore, it is rejected under the same rationale.

23. Claim 52 is corresponding apparatus claim of method claim 37. Therefore, it is rejected under the same rationale.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-CHAU N. NGUYEN whose telephone number is (571)272-4242. The examiner can normally be reached on Monday-Friday from 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JASON D. CARDONE can be reached on (571) 272-6159. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2145

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner: Minh-Chau Nguyen

Art Unit: 2145



**JASON CARDONE**  
**SUPERVISORY PATENT EXAMINER**